

**A. Amendments to the Claims**

1. (Previously presented) In a two cycle internal combustion engine having housing means to provide the necessary spaces in the engine, compressor means to force combustible material into the engine, fuel injection means to inject fuel into the engine for combustion, reciprocating means to compress combustible material held within said housing means between the compressor means and the reciprocating means to cause detonation of said combustible material, wherein the improvement comprises the compressor means can compress more combustible material into the combustion process after detonation commences.
2. (Original) A two cycle internal combustion engine as defined in claim 1 wherein the reciprocating means includes crankshaft means to cause reciprocating motion of a reciprocating part, receive a power transfer from the reciprocating part during combustion, and output engine torque.
3. (Original) A two-cycle internal combustion engine as defined in claim 2 wherein said crankshaft means includes output shaft means to output engine torque.
4. (Original) A two-cycle internal combustion engine as defined in claim 3 wherein the compressor means include output shaft means to output and receive engine power.
5. (Original) A two cycle internal combustion engine as defined in claim 4 wherein the improvement comprises power transfer means rotatably connecting said crankshaft output shaft means to said compressor output shaft means for a transfer of power between them.
6. (Original) A two-cycle internal combustion engine as defined in claim 5 wherein the compressor means is comprised of a positive displacement gear type air compressor to compress combustible material into the engine.
7. (Original) A two cycle internal combustion engine as defined in claim 6 wherein said housing means includes cylinder means to confine the movement of the reciprocating means.
8. (Original) A two cycle internal combustion engine as defined in claim 7 wherein the reciprocating parts include piston means, piston pin means and connecting rod means with said piston means connected to said piston pin means and the piston pin means rotatably connected to said connecting rod means and the connecting rod means rotatably connected to the crankshaft means for a transfer of power between the

crankshaft means and the connecting rod means.

9. (Original) A two-cycle internal combustion engine as defined in claim 8 wherein the improvement comprises an exhaust passage means connected between an exterior wall of the housing means and said cylinder means for the release of exhaust gases contained within the cylinder means.

10. (Original) A two-cycle internal combustion engine as defined in claim 9 wherein the improvement comprises intake passage means connected between an exterior wall of the housing means and the interior housing space confining the compressor means for passage of combustible material to the compression means.

11. (Original) A two-cycle internal combustion engine as defined in claim 10 wherein the improvement comprises passage means connecting the outlet of the compressor means to the cylinder means.

12. (Original) A two-cycle internal combustion engine as defined in claim 11 wherein the improvement comprises a fuel injector located within the housing means for injection of fuel into the housing means.

13. (Original) A two-cycle internal combustion engine as defined in claim 12 wherein said fuel injector injects fuel between the compressor means and the reciprocating means.

14. (Original) A two cycle internal combustion engine as defined in claim 13 wherein the improvement comprises a fuel igniter located within the housing means to ignite combustible material within the housing means between the compressor means and the reciprocating means.

15. (Original) A two-cycle internal combustion engine as defined in claim 14 wherein the improvement comprises intake and exhaust valve means to control the flow of fluids moving between engine housing spaces.

16. (Original) A two cycle internal combustion engine as defined in claim 15 wherein said valve means includes valve port means formed in the housing means between the compressor means and the cylinder means and a valve to cover said valve port means to control the flow of fluids moving between the compressor means and the cylinder means, and between the cylinder means and the exhaust port means.

17. (Previously amended) A two cycle internal combustion engine as defined in claim 16 wherein the improvement comprises oil pump means to pump lubricant to

moving parts of the engine.

18. (Original) A two-cycle internal combustion engine as defined in claim 17 wherein the housing means includes cooling passage means to contain engine coolant and provide a means to remove excess heat from the housing means.

19. (Original) A two cycle internal combustion engine as defined in claim 18 wherein the improvement comprises bearing means to provide support to rotating parts.

20. (Previously presented) A two cycle internal combustion engine as defined in claim 19 wherein the improvement comprises throttle means to control the supply of oxygen entering the intake passage means so the combustion process can be controlled.

21. (Original) A two cycle internal combustion engine as defined in claim 20 wherein said positive displacement gear type air compressor includes two gear shafts divided into five separate gear pumps to pump all the working fluids the engine uses, air, coolant, oil, and fuel having a air compressor to compress air into the engine, a gear pump to each side of the compressor gears to pump engine oil, and beside one said oil gear pumps a coolant gear pump to pump engine coolant, and beside the other oil gear pump a fuel gear pump to pump engine fuel.

22. (Original) A two cycle internal combustion engine having housing means to provide the necessary spaces in the engine, compressor means to force combustible material into the engine, fuel injection means to inject fuel into the engine for combustion, reciprocating means including crankshaft means to compress said combustible material held within said housing means between said reciprocating means and said compressor means to cause detonation of the combustible material so the compressor means can compress more combustible material into the combustion process after detonation commences, wherein the improvement comprises said housing divided into three sections along two parallel planes, one plane intersecting the axes of the gear shafts of the compressor means and the second intersecting the axis of said crankshaft, and said three housing sections held tightly together by fastening means.

23. (Currently amended) A two cycle internal combustion engine having a housing to provide the necessary spaces in the engine, fuel injection means to inject fuel into a space in the engine for combustion and for initiating combustion, a positive displacement gear pump compressor to force combustible material into said space in the engine for combustion, reciprocating means to compress combustible material held within said space in the engine between said reciprocating means and said positive displacement gear pump compressor to cause combustion of said combustible material

so said positive displacement gear pump compressor continues to compress more combustible material into said space in the engine after combustion begins, wherein the improvement comprises valve means to control the movement of fluids within the engine.

24. (Previously presented) A two cycle internal combustion engine having a housing to provide the necessary spaces in the engine, a positive displacement gear type compressor to force combustible material into a space in the engine, fuel injection means to inject fuel into said space in the engine for combustion, reciprocating means to compress combustible material held within said space in the engine between said reciprocating means and said positive displacement gear type compressor to cause combustion of said combustible material so said positive displacement gear type compressor continues to compress more combustible material into the combustion process after combustion begins, wherein the improvement comprises spark ignition means to control when combustion begins.

25. (Previously presented) A two cycle internal combustion engine having a housing to provide the necessary spaces in the engine, a positive displacement gear type compressor to force combustible material into a space in the engine, fuel injection means to inject fuel into said space in the engine for combustion, reciprocating means to compress combustible material held within said space in the engine between said reciprocating means and said positive displacement gear type compressor to cause combustion of said combustible material so said positive displacement gear type compressor continues to compress more combustible material into the combustion process after combustion begins, wherein the improvement comprises throttle means to control the flow of combustible material into said positive displacement gear type compressor.

26. (Original) A two cycle internal combustion engine having housing means to provide the necessary spaces in the engine, compressor means to force combustible material into the engine, fuel injection means to inject fuel into the engine for combustion, reciprocating means to compress combustible material held within said housing between said reciprocating means and said compressor means to cause detonation of said combustible material so the compressor means can compress more combustible material into the combustion process after detonation commences, wherein the compressor means is comprised of a positive displacement gear type air compressor to compress combustible material into the engine.

27. (Original) A two cycle internal combustion engine having housing means to provide the necessary spaces in the engine, compressor means to force combustible material into the engine, fuel injection means to inject fuel into the engine for

combustion, reciprocating means to compress combustible material held within said housing between said reciprocating means and said compressor means to cause detonation of said combustible material so the compressor means can compress more combustible material into the combustion process after detonation commences, wherein the improvement comprises power transfer means rotatably connecting the compressor means with the reciprocating means for a transfer of power between them.

28. (Original) A two cycle internal combustion engine having housing means including cylinder means to provide the necessary spaces in the engine, reciprocating means to output engine power and force combustion products out of the engine, compressor means to force combustible material into the engine head and compress it there, intake valve means to control fluids passing into the cylinder, wherein the improvement comprises fuel injection means to inject fuel into the engine head upstream of the intake valve to cause combustion to commence within the engine head.

29. (Original) A two-cycle internal combustion engine as defined in claim 28 wherein the improvement comprises valve means having valve stems passing between the rotating part of said compressor means.

30. (Original) A two cycle internal combustion engine as defined in claim 29 wherein the improvement comprises overhead camshaft means driven by the compressor means.

31. (Original) A two-cycle internal combustion engine as defined in claim 30 wherein the improvement comprises intake and exhaust valve means actuated by said overhead camshaft means.

32. (Original) A two cycle internal combustion engine as defined in claim 31 wherein the improvement comprises combustion passage means located between the compressor means and the valve means intake valve head.

33. (Original) A two-cycle internal combustion engine as defined in claim 32 wherein the improvement comprises fuel injection means to inject fuel into said combustion passage means.

34. (Original) A two-cycle internal combustion engine as defined in claim 33 wherein the improvement comprises a camshaft compartment divided along the axis of the camshaft.

35. (Original) A two cycle internal combustion engine as defined in claim 34 wherein the improvement comprises spark ignition means located within the engine

housing to ignite the fuel mixture compressed within said combustion passage means.

36. (Original) A two cycle internal combustion engine as defined in claim 35 wherein the improvement comprises a gear train compartment formed within one end of the engine housing means to contain a camshaft gear drive train rotatably connecting a compressor gear drive gear to a camshaft drive gear.

37. (Original) A two-cycle internal combustion engine as defined in claim 36 wherein said camshaft drive gear train includes a crankshaft driven gear fixedly attached to one compressor gear shaft so the crankshaft can drive said compressor gear shaft.

38. (Original) A two-cycle internal combustion engine as defined in claim 37 wherein the compressor includes a positive displacement gear type air compressor to compress combustible material into the engine.

39. (Original) A two cycle internal combustion engine as defined in claim 38 wherein said positive displacement gear type air compressor is divided into four separate gear pumps, two inner gear pumps to compress combustible material into the engine and two outer gear pumps to pump oil to engine parts requiring lubrication and to reduce the wear of the two main compressor gears.

40. (Cancelled)

41. (Previously amended) A internal combustion engine as defined in claim 67 wherein said cooling means supplies combustible material for combustion to said compressor means.

42. (Previously presented) A internal combustion engine having housing means, compressor means, reciprocating means, and fuel supply means, to cause combustion of said fuel between said compressor means and said reciprocating means wherein said compressor means and said reciprocating means receive a power transfer from said combustion.

43. (Previously presented) A internal combustion engine as defined in claim 42 including fuel injection means.

44. (Previously presented) A internal combustion engine as defined in claim 42 including ignition means.

45. (Previously presented) A internal combustion engine as defined in claim 42

including cooling means.

46. (Previously presented) A internal combustion engine as defined in claim 42 including lubrication means.
47. (Previously presented) A internal combustion engine as defined in claim 42 including cylinder means.
48. (Previously presented) A internal combustion engine as defined in claim 42 including piston means.
49. (Previously presented) A internal combustion engine as defined in claim 42 including camshaft means.
50. (Previously presented) A internal combustion engine as defined in claim 42 including valve means.
51. (Previously presented) A internal combustion engine as defined in claim 42 including throttle means.
52. (Previously presented) A internal combustion engine as defined in claim 42 including crankshaft means.
53. (Previously presented) A method for an internal combustion engine, which comprises:  
    (a) compressing a fuel within a housing means in a passage between a positive displacement gear type compressor and a reciprocating means to cause combustion wherein the energy of combustion is transferred to said reciprocating means and said compressor means.
54. (Previously presented) The method for an internal combustion engine as defined in claim 53 wherein:  
    (b) said compressor is rotationally connected to said reciprocating means.
55. (Previously presented) The method for an internal combustion engine as defined in claim 53 wherein:  
    (b) fuel injection means injects fuel into said housing means.
56. (Currently Amended) A method for an internal combustion engine, which comprises:

(a) compressing a fuel within a housing means in the passage between a positive displacement gear type compressor and a reciprocating means wherein the energy of combustion is transferred to said reciprocating means and said compressor means.

57. (Previously presented) A method for an internal combustion engine, which comprises:

compressing a fuel within a housing means in a passage between a positive displacement gear type compressor and a reciprocating means to cause combustion wherein the energy of combustion is transferred to said reciprocating means and said compressor means; wherein fuel injection means injects fuel into said housing means; and spark ignition means initiates combustion.

58. (Currently Amended) Apparatus for an internal combustion engine, which comprises:

- (a) a housing means;
- (b) a compressor means;
- (c) a reciprocating means;
- (d) a fuel supply means;

(e) a means to compress fuel in a passage between said compressor means and said reciprocating means to initiate combustion, wherein the power of combustion is transferred to said reciprocating means and said compressor means.

59. (Previously presented) A method for a internal combustion engine, which comprises:

compressing a fuel within a housing means in a passage between a compressor means and a reciprocating means to cause combustion wherein the energy of combustion is transferred to said reciprocating means and said compressor means; wherein fuel injection means injects fuel into said housing means; and having spark ignition means.

60. (Previously amended) The apparatus of a internal combustion engine as defined in claim 58 including:



(f) a cooling means.

61. (Previously amended) The apparatus of a internal combustion engine as defined in claim 58, including:

(f) a lubrication means.

62. (Previously amended) The apparatus of a internal combustion engine as defined in claim 58, including:

(f) a valve means.

63. (Previously amended) The apparatus of a internal combustion engine as defined in claim 58 including:

(f) a bearing means.

64. (Previously presented) A internal combustion engine having a housing means to provide the necessary spaces in the engine, a reciprocating means to output engine power and force combustion products out of the engine, a compressor means to force combustible material into said housing means and compress it there, a valve means to control fluids passing to said reciprocating means, wherein the improvement comprises a fuel supply means to supply fuel into said housing means upstream of said valve means to cause combustion to commence upstream of said valve means.

65. (Previously presented) A two cycle internal combustion engine having a housing means to provide the necessary spaces in the engine, a reciprocating means to output engine power and force combustion products out of the engine, a compressor means to force combustible material into said housing means and compress it there, a valve means to control fluids passing to said reciprocating means, wherein the improvement comprises a fuel supply means to supply fluid into said housing means upstream of said valve means to cause combustion to commence upstream of said valve means.

66. (Previously presented) A two cycle internal combustion engine as defined in claim 39 wherein the improvement comprises cooling passages located within the engine head to cool engine head combustion passages, exhaust passages and valves.

67. (Previously presented) A internal combustion engine as defined in claim 36 wherein said camshaft drive gear train includes a crankshaft driven gear fixedly attached to one compressor gear shaft so said crankshaft can drive said compressor gear shaft.

68. (Previously presented) An internal combustion engine comprising:  
a housing providing necessary spaces in the engine;  
a positive displacement compressor for forcing combustible material into the engine;  
a fuel injection means for injecting fuel into combustible material for combustion;  
and  
a reciprocating means for compressing fuel and combustible material held within said housing into a passage located between said compressor and said reciprocating means for causing detonation of said fuel and combustible material, wherein the compressor continues to compress additional fuel and combustible material after combustion begins into said passage in the engine where detonation initiates.
69. (Previously presented) The internal combustion engine of claim 68, further wherein the compressor is rotationally connected to the reciprocating assembly for a transfer of power between said compressor and said reciprocating assembly.
70. (Previously presented) The internal combustion engine of claim 68 including intake valve means to control the flow of fuel and combustible material into said passage from said positive displacement compressor.
71. (Previously presented) The internal combustion engine of claim 68, wherein the compressor is a gear pump compressor.
72. (Previously presented) The internal combustion engine of claim 70 further comprising spark ignition means.
73. (Previously presented) The internal combustion engine of claim 68, wherein said reciprocating assembly comprises a crankshaft, a connecting and a piston assembly.
74. (Previously presented) The internal combustion engine of claim 68, further comprising a spark ignition means.
75. (Previously presented) A method for operating an engine comprising:  
providing an engine having;  
a housing that provides necessary spaces in the engine;  
a positive displacement compressor for forcing combustible material into the engine;  
a fuel injector for injecting fuel into the engine for combustion; and  
a reciprocating means for compressing combustible material and receiving a

power transfer from combustion;

providing combustible material to said compressor for compression; and  
including the steps of:

providing fuel to said fuel injector;

injecting fuel into said combustible material for combustion;

reciprocating means compressing fuel and combustible material to cause  
detonation to begin;

burning said combustible material and fuel to produce energy; and

continuing to force additional combustible material and fuel into the combustion  
process after the step of detonating said combustible material begins.

76. (Currently amended) The method of claim 75 providing a rotational power transfer between said positive displacement compressor and said reciprocating means for power transfer between them.

77. (Previously presented) The method of claim 76 including an intake valve means for providing the control of the flow of compressed fuel and combustible material into said housing for combustion.

78. (Previously presented) The method of claim 77 wherein said positive displacement compressor is a gear pump for providing high pressure compression of fuel and combustible material.

79. (Previously presented) The method of claim 78 further comprising spark ignition means for providing spark ignition to initiate combustion of said fuel and combustible material.

80. (Previously presented) The method of claim 79 wherein said reciprocating means comprises a crankshaft, a connecting rod and a piston assembly for providing compression of fuel and combustible material and a power transfer for rotational torque output.

81. (Previously presented) The method of claim 75 further comprising a spark ignition means for providing spark ignition of compressed fuel and combustible material.

82. (Original) A two cycle internal combustion engine comprised of:

a housing that provides the necessary spaces in the engine,  
an air intake port;  
an engine cylinder;

a positive displacement gear type air compressor situated between said air intake port and a passage leading to said cylinder to compress combustible material into said passage and cylinder, said compressor including first and second gear shafts rotatably mounted in first and second partial cylinders;

a fuel injector for injecting fuel into said passage for combustion;

a reciprocating assembly for compressing combustible material in said passage and said cylinder and receiving a power transfer from combustion; and  
an exhaust port.

83. (Original) The engine of claim 82 wherein said reciprocating assembly further comprises a piston secured to one end of a rotatable connecting rod by a rotatable piston pin, said connecting rod also connected on its other end to a crankshaft by a crankshaft rod journal, whereby as said crankshaft rotates said rod journal and connecting rod are rotated, pushing said piston pin and piston towards the internal housing wall of said cylinder, thereby reducing the volume within said cylinder and compressing the air held therein into said passage.

84. (Original) The engine of claim 83 wherein when said piston reaches approximately top dead center of said cylinder, said fuel injector injects fuel into said passage also containing compressed air from said positive displacement air compressor, and the high temperature of the compressed air confined within said passage ignites said fuel and commences combustion, with said air compressor continually compressing more combustible material to the combustion process after detonation commences.

85. (Original) The engine of claim 84 further comprising a first pulley drive and a second pulley drive, wherein said crankshaft output shaft is rotatably connected to the first drive pulley, and said first pulley drive is connected to said second pulley drive by a drive belt to transfer power to said second pulley drive.

86. (Original) The engine of claim 85 wherein said second pulley drive is connected to said first gear shaft so that rotation of said second drive pulley in turn causes said first gear shaft to rotate.

87. (Original) The engine of claim 86 wherein teeth of said first gear shaft engage with teeth of said second gear shaft so that when said first gear shaft is rotated said second gear shaft is also caused to rotate.

88. (Original) The engine of claim 87 whereby rotation of said first and second gear shafts forces air received from said intake port to move along the circumference of said first and second partial cylinders and into said passage and engine cylinder.

89. (Original) The engine of claim 88 wherein air in said passage and cylinder is compressed into said passage by rotation of said first and second gear shafts and also by the reciprocating motion of said piston to the top dead center position within said cylinder.

90. (Original) The engine of claim 89 wherein said fuel injector injects fuel into said passage and is burned by the high temperature of the compressed combustible material inside said passage.

91. (Original) The engine of claim 90 wherein said burning causes combustion of the fuel and air within said passage and said combustion increases the pressure within said passage and cylinder forcing said piston to move from top dead center to bottom dead center within said cylinder and uncover said exhaust port.

92. (Original) The engine of claim 91 wherein said pressure within said passage and cylinder forces combustion products contained within said passage and cylinder out through said exhaust port.

93. (Original) The engine of claim 92 wherein said positive displacement gear type compressor supplies additional combustible material to said passage and cylinder scavenging said passage and cylinder of combustion products.

94. (Original) The engine of claim 93 wherein the release of said combustion products contained within said passage and cylinder reduces the pressure inside said passage and cylinder and fills them with combustible material.

95. (Original) The engine of claim 94 wherein said reciprocating assembly pushes said piston to the top dead center position compressing combustible material held within said cylinder into said passage.

96. (Original) The engine of claim 95 wherein said fuel injector injects additional fuel into said passage to again initiate combustion of fuel and combustible material inside said passage to cause combustion and produce another power stroke.

97. (Original) An internal combustion engine comprised of a housing for containing the necessary spaces within the engine, a positive displacement gear type air compressor for forcing combustible material into a space within the engine where combustion is initiated, a fuel supply means for supplying fuel for combustion into said space within the engine, a reciprocating means for compressing combustible material into said space within the engine and for receiving an energy transfer from said

combustion, wherein the improvement comprises said positive displacement gear type air compressor continues to force combustible material into said space within the engine.

98. (Original) The internal combustion engine as defined in claim 97 wherein said reciprocating means includes a crankshaft, connecting rod, piston pin, and piston.

99. (Original) The internal combustion engine as defined in claim 97 including spark ignition means for initiating said combustion.

100. (Original) The internal combustion engine as defined in claim 97 wherein said fuel supply means includes fuel injection means for injecting fuel into said space within the engine for combustion.

101. (Original) The internal combustion engine as defined in claim 97 wherein said positive displacement gear type air compressor includes a positive displacement gear pump for forcing combustible material into the engine.

102. (Original) The internal combustion engine as defined in claim 97 wherein said reciprocating means is rotationally connected by power transfer means to said positive displacement gear type air compressor for a transfer of power between them.

103. (Original) The internal combustion engine as defined in claim 97 wherein said necessary spaces within the engine includes a cylinder for confining the reciprocating motion of the reciprocating means.

104. (Original) The internal combustion engine as defined in claim 98 including spark ignition means for initiating said combustion.

105. (Original) The internal combustion engine as defined in claim 104 wherein said fuel supply means includes fuel injection means for injecting fuel into said space within the engine for combustion.

106. (Original) The internal combustion engine as defined in claim 105 wherein said crankshaft is rotationally connected by power transfer means to said positive displacement gear type air compressor for a transfer of power between them.

107. (Original) The internal combustion engine as defined in claim 106 wherein said positive displacement air compressor includes a positive displacement gear pump for forcing combustible material into said space within the engine for combustion.

108. (Original) In a two cycle internal combustion engine having housing means to provide the necessary spaces in the engine, compressor means to force combustible material into the engine, fuel injection means to inject fuel into the engine for combustion, reciprocating means to compress combustible material held within said housing means between the compressor means and the reciprocating means to cause detonation of said combustible material, wherein said reciprocating means includes crankshaft means to cause reciprocating motion of a reciprocating part, receive a power transfer from the reciprocating part during combustion, and output engine torque, wherein said crankshaft means includes output shaft means to output engine torque, and wherein the improvement comprises the compressor means can compress more combustible material to the combustion process after detonation commences.

109. (Original) A two-cycle internal combustion engine as defined in claim 108 wherein the compressor means include output shaft means to output and receive engine power.

110. (Original) A two cycle internal combustion engine as defined in claim 109 wherein the improvement comprises power transfer means rotatably connecting said crankshaft output shaft means to said compressor output shaft means for a transfer of power between them.

111. (Original) A two-cycle internal combustion engine as defined in claim 110 wherein the compressor means is comprised of a positive displacement gear type air compressor to compress combustible material into the engine.

112. (Original) A two cycle internal combustion engine as defined in claim 111 wherein said housing means includes cylinder means to confine the movement of the reciprocating means.

113. (Original) A two cycle internal combustion engine as defined in claim 112 wherein the reciprocating parts include piston means, piston pin means and connecting rod means with said piston means connected to said piston pin means and the piston pin means rotatably connected to said connecting rod means and the connecting rod means rotatably connected to the crankshaft means for a transfer of power between the crankshaft means and the connecting rod means.

114. (Original) A two-cycle internal combustion engine as defined in claim 113 wherein the improvement comprises an exhaust passage means connected between an exterior wall of the housing means and said cylinder means for the release of exhaust gases contained within the cylinder means.

115. (Original) A two-cycle internal combustion engine as defined in claim 114 wherein the improvement comprises intake passage means connected between an exterior wall of the housing means and the interior housing space confining the compressor means for passage of combustible material to the compression means.

116. (Original) A two-cycle internal combustion engine as defined in claim 115 wherein the improvement comprises passage means connecting the outlet of the compressor means to the cylinder means.

117. (Original) A two-cycle internal combustion engine as defined in claim 116 wherein the improvement comprises a fuel injector located within the housing means for injection of fuel into the housing means.

118. (Original) A two-cycle internal combustion engine as defined in claim 117 wherein said fuel injector injects fuel between the compressor means and the reciprocating means.

119. (Original) A two cycle internal combustion engine as defined in claim 118 wherein the improvement comprises a fuel igniter located within the housing means to ignite combustible material within the housing means between the compressor means and the reciprocating means.

120. (Original) A two-cycle internal combustion engine as defined in claim 119 wherein the improvement comprises intake and exhaust valve means to control the flow of fluids moving between engine housing spaces.

121. (Original) A two cycle internal combustion engine as defined in claim 120 wherein said valve means includes valve port means formed in the housing means between the compressor means and the cylinder means and a valve to cover said valve port means to control the flow of fluids moving between the compressor means and the cylinder means, and between the cylinder means and the exhaust port means.

122. (Original) A two cycle internal combustion engine as defined in claim 121 wherein the improvement comprises oil pump means to pump lubricant to moving parts of the engine.

123. (Original) A two-cycle internal combustion engine as defined in claim 122 wherein the housing means includes cooling passage means to contain engine coolant and provide a means to remove excess heat from the housing means.

124. (Original) A two cycle internal combustion engine as defined in claim 123



wherein the improvement comprises bearing means to provide support to rotating parts.

125. (Original) A two cycle internal combustion engine as defined in claim 124 wherein the improvement comprises throttle means to control the supply of oxygen entering the intake passage means so the combustion process can be controlled.

126. (Original) A two cycle internal combustion engine as defined in claim 125 wherein said positive displacement gear type air compressor includes two gear shafts divided into five separate gear pumps to pump all the working fluids the engine uses, air, coolant, oil, and fuel having a air compressor to compress air into the engine, a gear pump to each side of the compressor gears to pump engine oil, and beside one said oil gear pumps a coolant gear pump to pump engine coolant, and beside the other oil gear pump a fuel gear pump to pump engine fuel.

127. (Original) An internal combustion engine comprising:  
a housing providing necessary spaces in the engine;  
a compressor for forcing combustible material into the engine;  
a fuel injector for injecting fuel into the engine for combustion;  
a spark ignition means; and

a reciprocating assembly for compressing combustible material held within said housing between said compressor and said reciprocating assembly for causing detonation of said combustible material, wherein said compressor can compress additional combustible material after detonation commences.

128. (Original) A method for operating an engine comprising:  
providing an engine having;  
a housing that provides necessary spaces in the engine;  
a compressor for forcing combustible material into the engine;  
a fuel injector for injecting fuel into the engine for combustion; and  
a reciprocating assembly;  
providing combustible material to said compressor;  
providing fuel to said fuel injector;  
providing fuel to said combustible material;  
compressing said combustible material between said compressor and said reciprocating assembly;  
detonating said combustible material by providing a spark ignition; and  
compressing additional combustible material after the step of detonating commences.

129. (New) A two cycle internal combustion engine wherein the improvement

comprises continually forcing combustible material into a space within the engine where detonation is initiated.

130. (New) The two cycle internal combustion engine as defined in claim 129 wherein the improvement comprises continuing to force combustible material into the combustion process.

131. (New) The two cycle internal combustion engine as defined in claim 130 wherein the improvement comprises simultaneously transferring the power of combustion to a reciprocating assembly means and a compressor means.

132. (New) The two cycle internal combustion engine as defined in claim 131 wherein the improvement comprises said compressor means includes a positive displacement gear type air compressor.

133. (New) The two cycle internal combustion engine as defined in claim 132 wherein the improvement comprises said positive displacement air compressor is a positive displacement gear pump.

134. (New) The two cycle internal combustion engine as defined in claim 133 wherein the improvement comprises spark plug means.

135. (New) The two cycle internal combustion engine as defined in claim 134 wherein the improvement comprises said reciprocating assembly includes piston means.

136. (New) The two cycle internal combustion engine as defined in claim 135 wherein the improvement comprises engine means.

137. (New) A two cycle internal combustion engine comprising means to continuously force combustible material into a space within the engine where combustion is initiated.

138. (New) The two cycle internal combustion engine as defined in claim 137 wherein the improvement comprises means to transfer the power of combustion to a reciprocating assembly and a compressor.

139. (New) The two cycle internal combustion engine as defined in claim 138 wherein the improvement comprises said compressor is a positive displacement gear pump.